



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,311	08/10/2001	Mohammad Mehdiانpour	P01,0114	8475
30596	7590	07/08/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O.BOX 8910 RESTON, VA 20195			NGUYEN, TAI V	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/913,311

Applicant(s)

MEHDIANPOUR ET AL *ON*

Examiner

Tai Van Nguyen

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 19-24 and 26-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-24, 26-31 and 37-43 is/are rejected.
- 7) ☒ Claim(s) 32-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10 August 2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 3729

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. Following title is suggested: AN APPARATUS FOR HANDLING ELECTRICAL COMPONENTS.
3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

4. The abstract of the disclosure is objected to because the abstract is not drawn to the claimed invention, i. e. apparatus. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 19-24 and 37-43 as best understood are rejected under 35 U.S.C. 102(b) as being anticipated by Seno et al (US 4,706,379) herein after '379.

As applied to claim 19, '379 teach movable fitting head (9) for handling the components (8), the head including at one least gripper (6) and at least one storage element (22) including a plurality of storage spaces (7) for storing the electrical components; wherein the at least one storage element is separate from the at least one gripper (6) whereby component picked up the at least one gripper are depositable at the plurality of storage spaces (7) of the at least one storage element such that the deposited components are removable from the plurality of storage spaces via the at least one gripper, and wherein the plurality of storage spaces are distributed on a sliding part mounted on the head (9), the sliding part (8) being displaceable relative to the head, such that when the sliding part is displaced, the plurality of storage spaces are displaced successive (see Fig. 7).

Regarding claim 20, '379 teach components (8) are held at the holding (9) end of the at least one gripper (6), the holding end being movable transversely with respect to a placement direction of the component into a transfer position assigned to the transfer

Art Unit: 3729

station (S8) on the fitting head 9 and the plurality of storage spaces in the fitting head 9 being successively displaced to the transfer station (S7) (see Fig. 7).

Regarding claim 21, '379 teach at least one gripper (6) is mounted on the pivoting element (8) of the fitting head (9) and holding end pivoted transversely with respect to the placement direction, between various station, i. e. a placement station 29 and the transfer station (S7) via the pivoting element (8) (see Fig. 7).

Regarding claim 22, '379 teach at least one gripper 15 is mounted on the pivoting element 8 such that at least one gripper is displaceable longitudinally in the placement direction (see Figs 6 and 7).

Regarding claim 23, '379 teach the holding end in the transfer station (S7) is displaceable longitudinally in a direction relative to one of the plurality of storage spaces (7) (see Fig. 3).

Regarding claim 24, '379 teach at least one gripper is a suction device (6) and a pressure condition in the suction device in the transfer position is controlled such that a holding force is greater that or less than a holding force exerted by one of the plurality of storage spaces.

Note: The electronic component is attached to the reel 22 as the suction device's force is able remove the part from the storage unit. Hence, the force required to keep the electronic component on the reel is over come by the suction device pressure.

Regarding claims 26 and 27, '379 teach the sliding part is provided with suction openings for the components (see column 6, lines 17-57).

Regarding claim 28, '379 teach the at least one storage element is provided with means for changing the pressure condition in said suction devices (see column 10, lines 1-25).

Regarding claim 29, '379 teach the sliding part is of annular design and rotatably mounted (see Fig. 7).

Regarding claim 30, '379 teach the axis of rotation of the sliding part is congruent with the longitudinal axis of the at least one gripper located in the placement position, and the plurality of storage spaces have supporting surfaces extending perpendicularly to the longitudinal axis of the at least one gripper (see column 5, lines 39-48).

Regarding claim 31, teach a pivoting element is provided with a plurality of guides for cooperation with the at least one gripper, and the plurality of guides can be pivoted successively into the transfer position (see column 7, lines 9-27).

As applied to claim 37, '379 teach an apparatus for handling electrical components, comprising: an equipping head (9) for handling the components (8), the head being movable between feed devices carrying the electrical components and a substrate (see Fig. 3), the head including, at least one storage element (22) with a plurality of storage spaces (7), and at least one gripper (6) for removing the electrical components from the feed devices (22) and for attaching the electrical components to the substrate (2'), wherein the at least one storage element and the at least one gripper are movable together with the head (see Fig. 7) between the feed devices and the substrate, wherein the at least one gripper is for depositing components (S8), picked up

from the feeding devices, to the plurality of storage spaces (7) and for subsequently extracting components from the storage spaces and mounting them on the substrate.

As applied to claim 38, '379 teach wherein the number of storage spaces is greater than the number of grippers (see Fig. 7).

As applied to claim 39, '379 teach wherein the components (8) are held at a holding end of the at least one gripper (6), the holding end being movable transversely with respect to a placement direction of the components into a transfer position assigned to a transfer station (S8) on the head (9), and the plurality of storage spaces (7) in the head being successively displaced to the transfer station.

As applied to claim 40, '379 teach wherein the at least one gripper (6) is mounted on a pivoting element of the head (9), and the holding end is pivotable transversely, with respect to the placement direction, between a placement station and the transfer station via the pivoting element (see Fig. 7).

As applied to claim 41, '379 teach wherein the at least one gripper is mounted in a guide (S6, Fig. 7) in the pivoting element, such that the at least one gripper is displaceable longitudinally in the placement direction.

As applied to claim 42, '379 teach wherein the holding (9) end in the transfer station is displaceable longitudinally in a direction relative to one of the plurality of storage spaces (7).

As applied to claim 43, '379 teach wherein the at least one gripper (6) is a suction device, and a pressure condition in the suction device in a transfer position is

Art Unit: 3729

controlled such that a holding force is greater than or less than a holding force exerted by one of the plurality of storage spaces (7).

Note: The electronic component is attached to the reel 22 as the suction device's force is able remove the part from the storage unit. Hence, the force required to keep the electronic component on the reel is over come by the suction device pressure.

### ***Allowable Subject Matter***

7. Claims 32-36 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai Van Nguyen whose telephone number is 703-308-1791. The examiner can normally be reached on M-F (7:30-4:30).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN.  
July 6, 2004



**A. DEXTER TUGBANG**  
**PRIMARY EXAMINER**